Case 1:19-md-02875-RMB-SAK Document 2569-12 Filed 12/22/23 Page 1 of 2 PageID: 89155

Exhibit 49

7 XUE 2/3/23 dv



山东华鲁恒升化工股份有限公司

SHANDONG HUALU-HENGSHENG CHEMICAL CO., LTD.

CERTIFICATE OF ANALYSIS

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COMMODITY:N,N-DIMETHYL FORMAMIDE

BATCH NO.:20101026

THE RESULTS OF INSPECTION ARE AS FOLLOWS:

ITEM	SPECIFICATION	RESULTS
Pt-Co chrominance	≤10	5
Distillation test 0° C 101325Pa	≥98.5	98.6
151-155°C distillate volume		
dimethylamine ppm	≤15	1
Formic acid ppm	≤25	2
PH:25° C 20%Aqueous solution	7.0-7.5	7.05
Electric Conductivity: 25° C 20% Aqueous solution,	≤10 1.1	1.1
us		1.1
Moisture ppm	≤500	122
Fe ppm	≤0.05	0.002
Refractivity: $n_d^{25^{\circ}c}$	1.4270-1.4290	1.4286
Methanel ppm	≤20	2
Heavy compoment	≤500 43	/13
(dimethyl Acetamide) ppm		45
DMF %	≥99.9	99.98

SHANDONG HUALU-HENGSHENG CHEMICAL CO., LTD. NO.24 TIANQU XI RD, DEZHOU SHANDONG, CHINA

SIGNATURE	